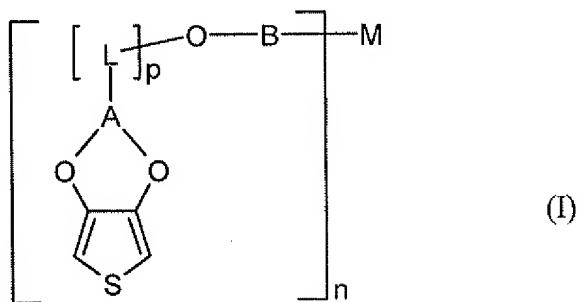


AMENDMENTS TO THE CLAIMS

Claims 1-21 (Canceled).

22. (Currently amended) The 3,4-Alkylenedioxythiophenes of Claim 21,

wherein A 3,4-Alkylenedioxythiophenes of the formula (I),



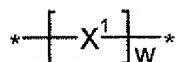
wherein

A is a C₁-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents.

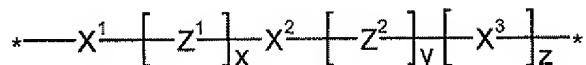
L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional group of the formula (II-a) or (II-b),



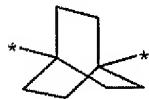
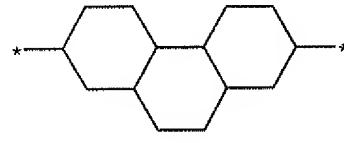
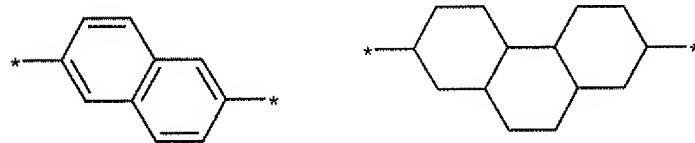
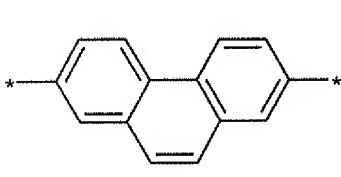
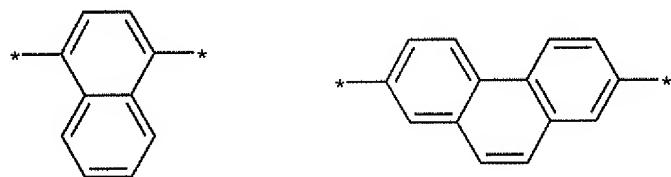
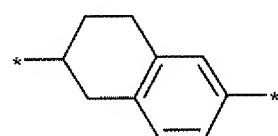
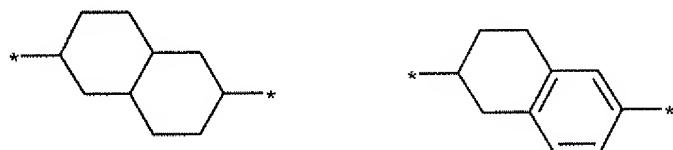
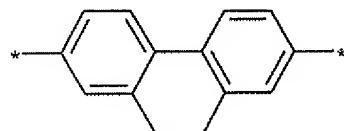
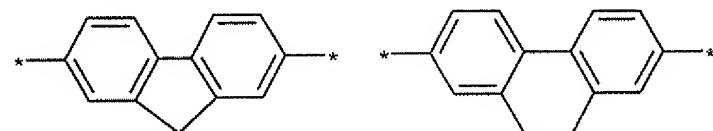
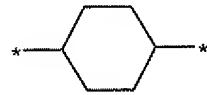
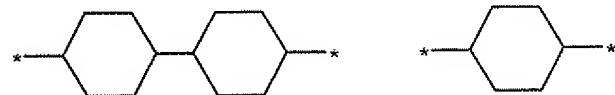
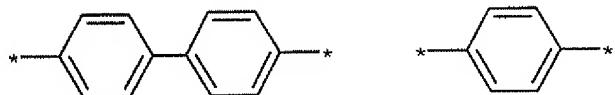
(II-a)

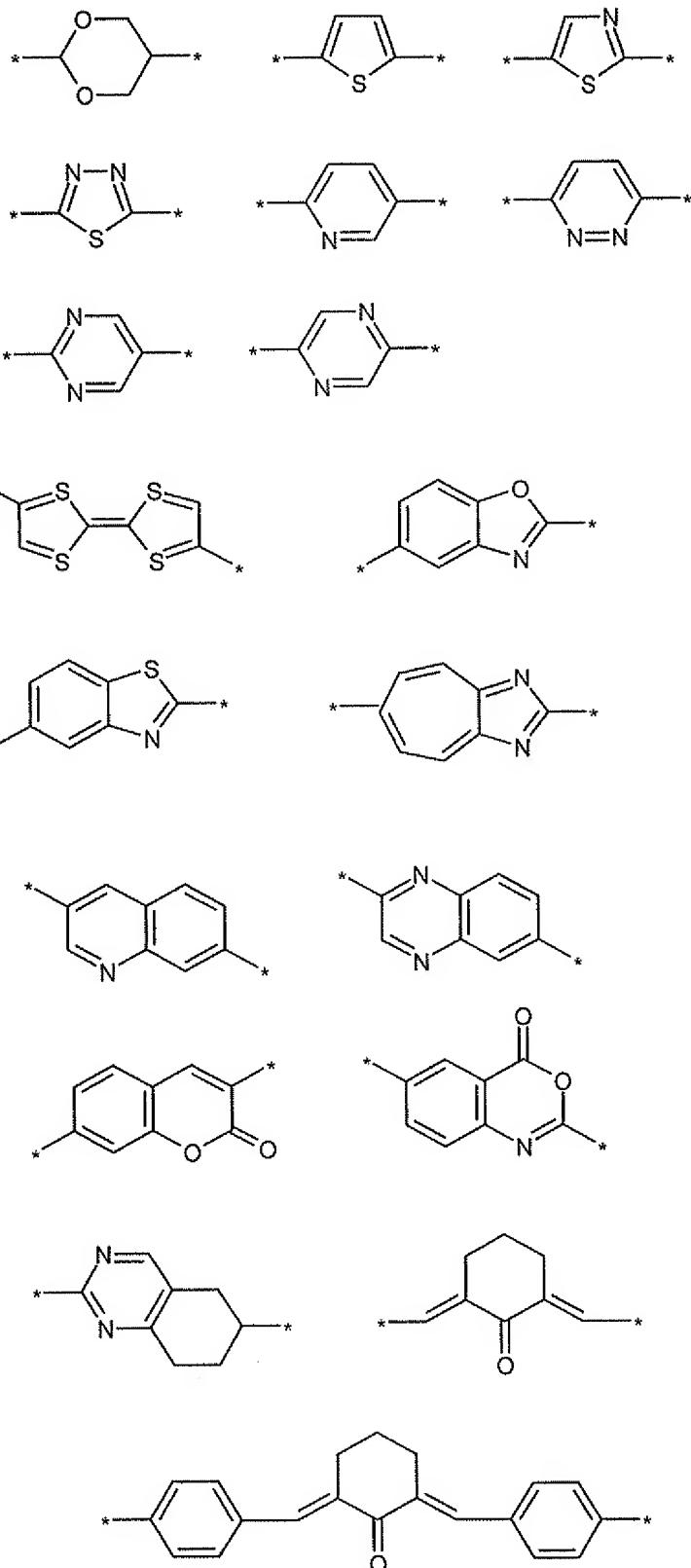


(II-b)

wherein

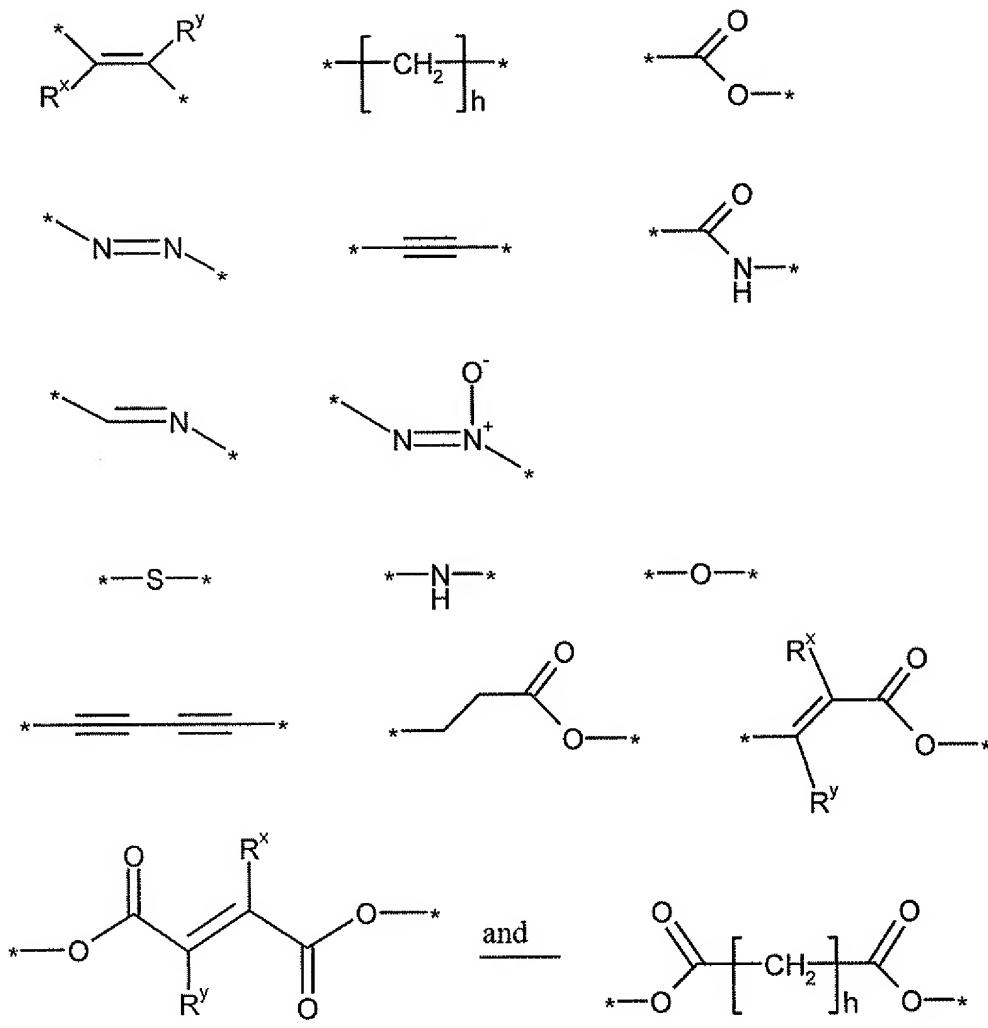
$\text{X}^4, \text{X}^2, \text{X}^3$ X^1, X^2 and X^3 are substituted or unsubstituted structures selected independently from the group consisting of





and

Z^1, Z^2 Z^1 and Z^2 are structures selected independently from the group consisting of



wherein

R^x and R^y are each, independently of one another, H, substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an

aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, NO₂, a carboxyl group or a hydroxy group,

h is an integer from 1 to 10,

w is an integer from 1 to 5,

x, y, z are each, independently of one another, 0 or 1, and

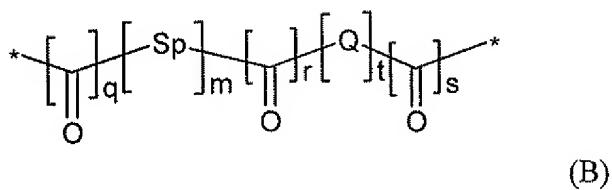
n is 1 or 2, where when n is 1, the group of the formula (II-a) or (II-b) bears a terminal group F at the linkage points denoted by *,

wherein

F is substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO₂) group, a carboxyl group, a sulphonate group or sulphonic acid group or sulphonic acid group or a hydroxy group,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

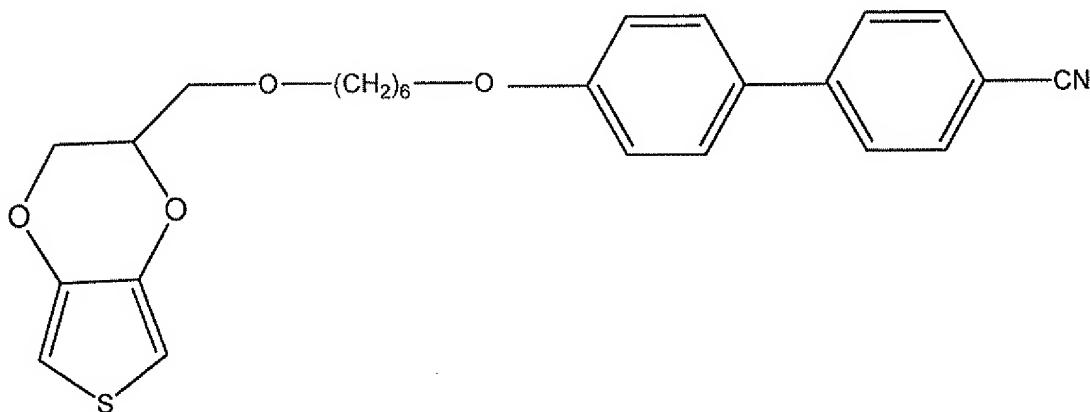
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups.

m is 0 or 1,

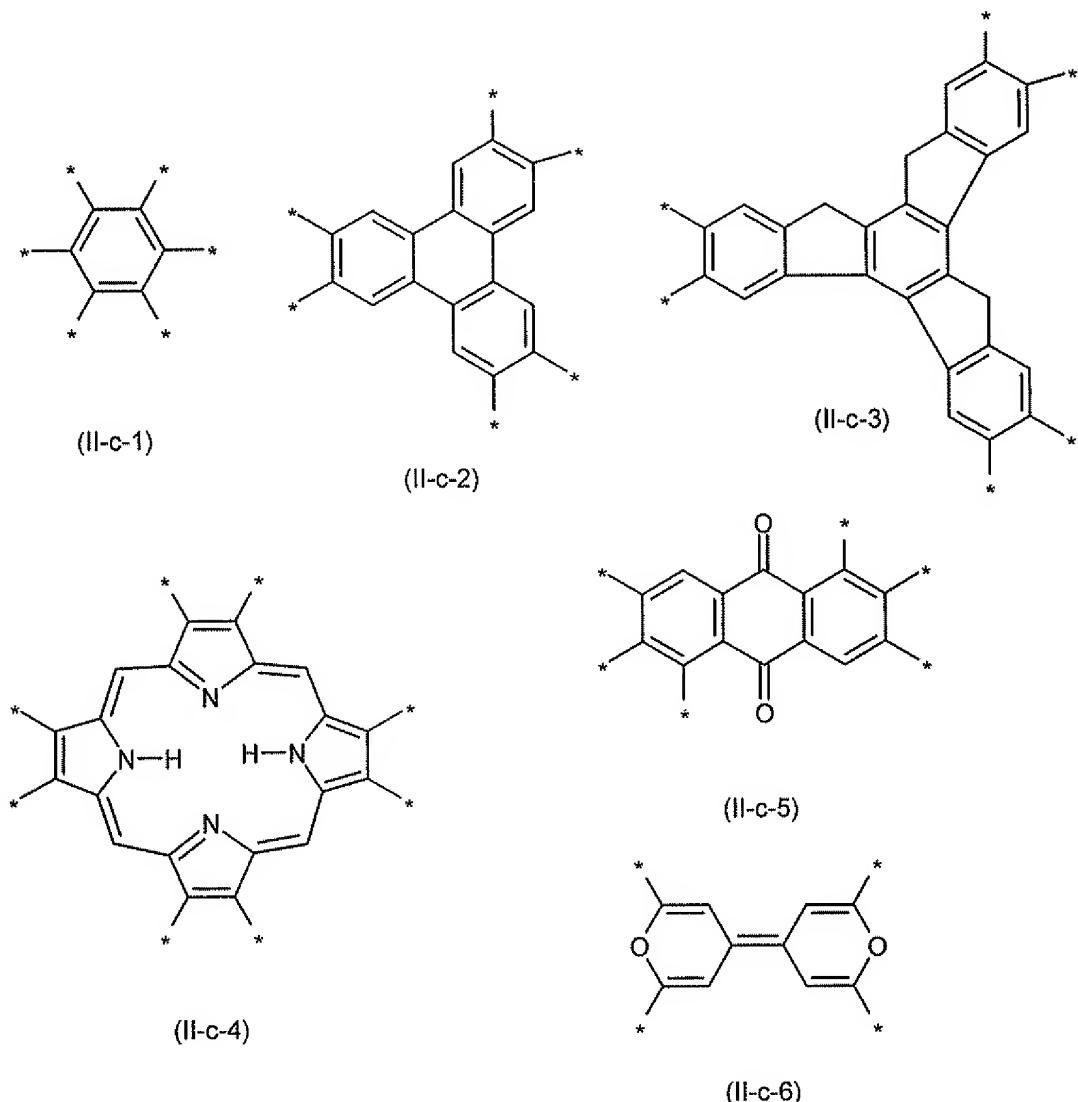
Q is O, S or NH

with the proviso that said polythiophenes is not



23. (Currently amended) The 3,4-Alkylenedioxothiophenes of Claim 21-claim 22,
wherein

M is an n-functional group selected from the group consisting of the formulae (II-c-1) to (II-c-6),



wherein

n is at most 4, 6 or 8,

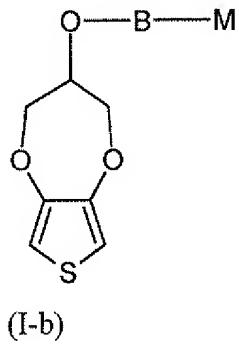
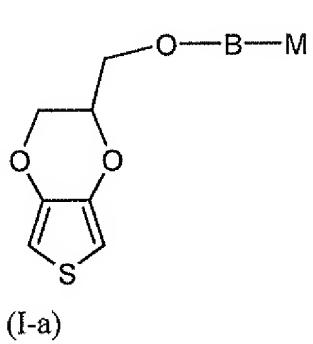
and wherein when n is an integer below 4, 6 or 8, M is selected from the group consisting of the formulae (II-c-1) to (II-c-6) bearing a terminal group F on the remaining $4 - n$, $6 - n$ or $8 - n$ linkage points denoted by *,

wherein

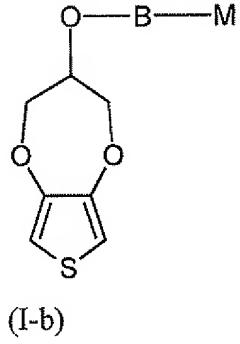
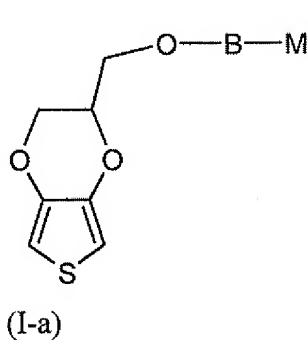
F is H, substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-

alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO₂) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group.

24. (Currently amended) The 3,4-Alkylenedioxythiophene of Claim 21-claim 22, having the structure of the formulae (I-a) and/or (I-b),



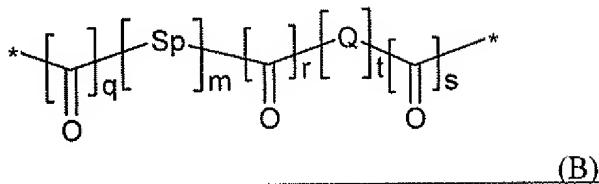
25. (Currently amended) A mixture comprising at least one compound of formulae (I-a) and/or (I-b) according to Claim 21:



wherein

M is an n-functional mesogenic group,

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r and s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

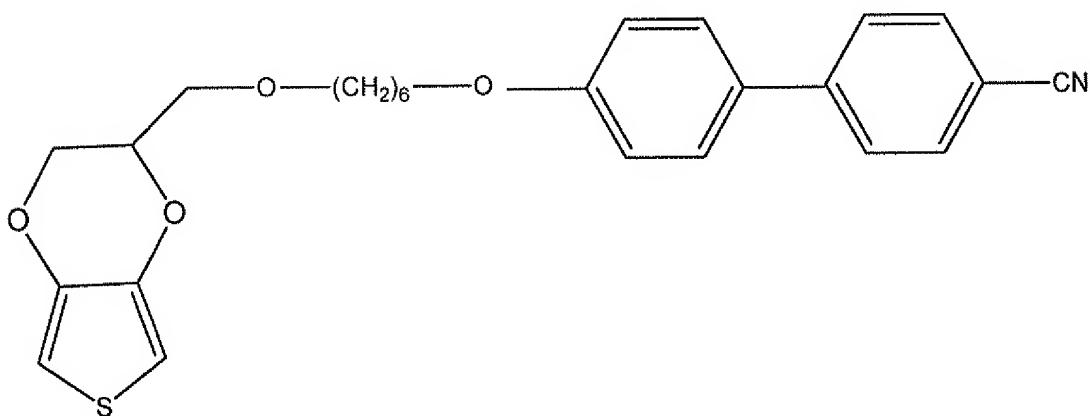
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups,

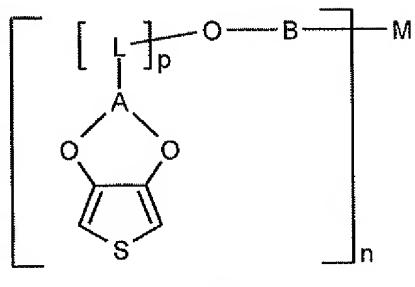
m is 0 or 1,

Q is O, S or NH

with the proviso that said polythiophenes is not

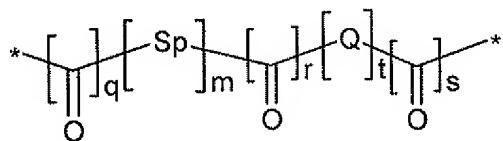


26. (Previously presented) A 3,4-Alkylenedioxythiophene of the formula (I),



wherein

- A is a C₁-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,
L is a methylene group,
p is 0 or an integer from 1 to 6,
M is an n-functional steroid radical or a derivative of a steroid radical,
n is an integer from 1 to 8 and
B is a bridging group of the formula (B)



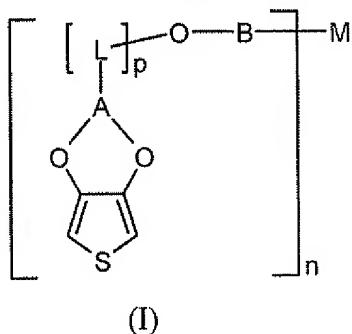
(B)

wherein

- q is 0 or 1,
r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,
t is 0 or 1,
Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups,
m is 0 or 1,

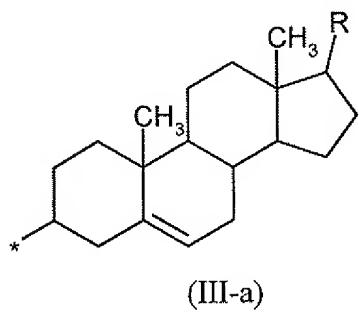
Q is O, S or NH.

27. (Currently amended) A 3,4-Alkylenedioxythiophene of the formula (I),



wherein

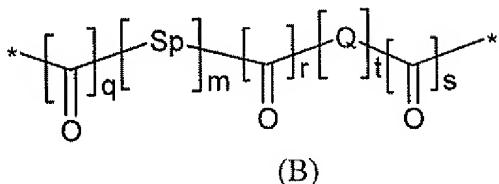
- A is a C₁-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,
L is a methylene group,
p is 0 or an integer from 1 to 6,
M is an n-functional cholesteryl radical or a derivative of the cholesteryl radical of the formula (III-a),



wherein R is H, substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO₂) group, a carboxyl group, a sulphonate group or a hydroxy group.

n is 1 and

B is a bridging group of the formula (B)



wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

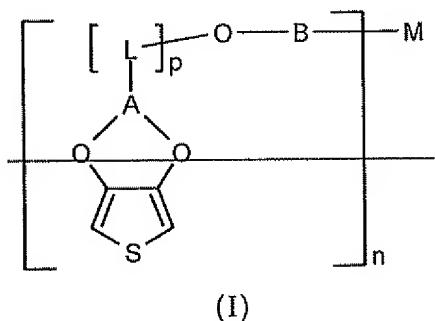
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups,

m is 0 or 1,

Q is O, S or NH.

28. (currently amended) A process for preparing preparing a polythiophene comprising polymerizing the 3,4-alkylenedioxythiophene as claimed in claim 22 of the formula (I),



wherein

A is a C₄-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents;

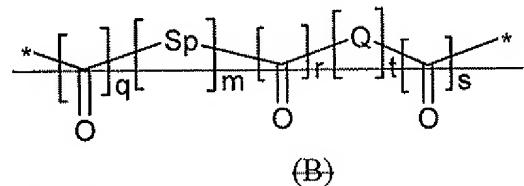
L is a methylene group;

p is 0 or an integer from 1 to 6;

M — is an n-functional mesogenic group;

n — is an integer from 1 to 8 and

B — is a bridging group of the formula (B)



(B)

wherein

q — is 0 or 1;

r, s — are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0;

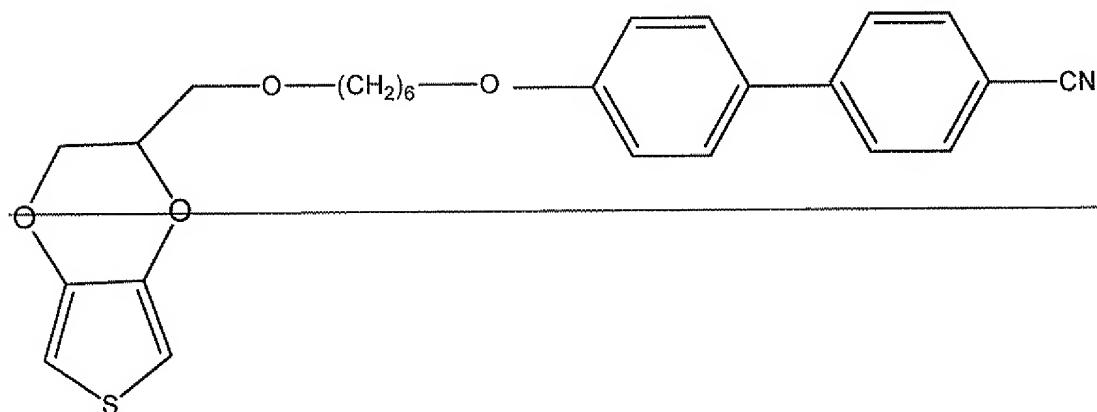
t — is 0 or 1;

Sp — is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₄-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀-oligoether and polyether groups,

m — is 0 or 1;

Q — is O, S or NH.

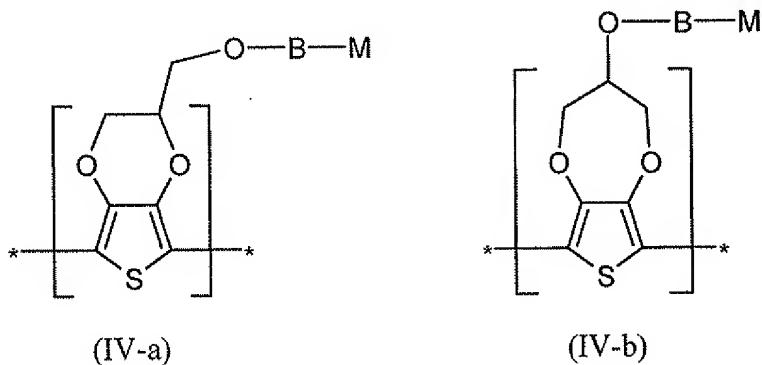
with the proviso that said 3,4-Alkylenedioxythiophene is not



29. (Previously presented) The process of Claim 28 wherein a mixture of two or more compounds of Formula 1 are polymerized.

30. Cancelled

31. (Currently amended) The polythiophene according to claim 44, wherein the polythiophene Polythiophene according to Claim 30, characterized in that the comprise recurring units of the formulae (IV-a) and/or (IV-b),

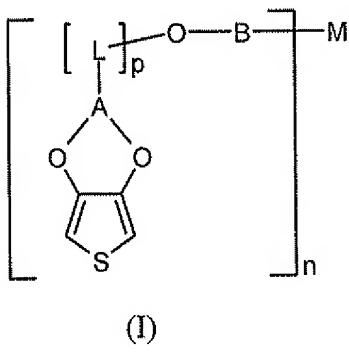


32. (Currently amended) Polythiophene of Claim 30 The polythiophene of claim 44, wherein they are cationically and electrically conductive and contain bound anions as counterions to balance the positive charge.

33. (Previously presented) The polythiophene of Claim 32, wherein the counterions are polyanions of polymeric carboxylic acids or polymeric sulphonnic acids.

34. (Currently amended) The polythiophene according to Claim 30 claim 44, wherein they are uncharged and semiconducting.

35. (Currently amended) The process for preparing polythiophenes of Claim 30, A process for preparing the polythiophene as claimed in claim 44, comprising oxidatively polymerizing electrochemically compounds of the formula (I),

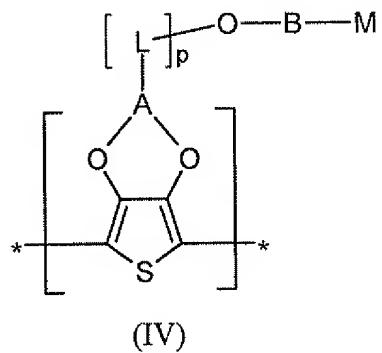


36. (Currently amended) A process for preparing electrical or electronic components, light-emitting components, for antistatic coating, in optoelectronics or in solar energy technology comprising incorporating polythiophenes according to ~~Claim 30~~ claim 44.

37. (Currently amended) A process for preparing conductive layers comprising incorporating the polythiophenes of ~~Claim 30~~ claim 44.

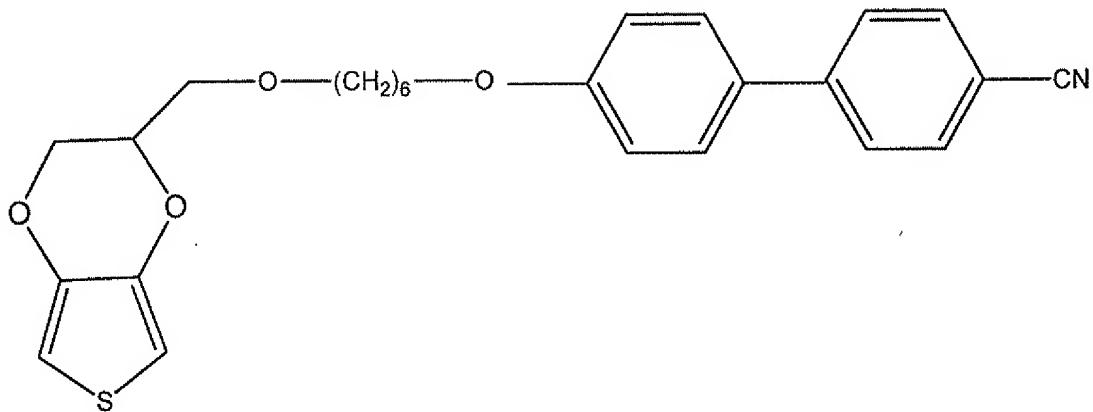
38. (Cancelled)

39. (Currently amended) Polythiophenes characterized in that they A polythiophene which comprise recurring units of the formula (IV),

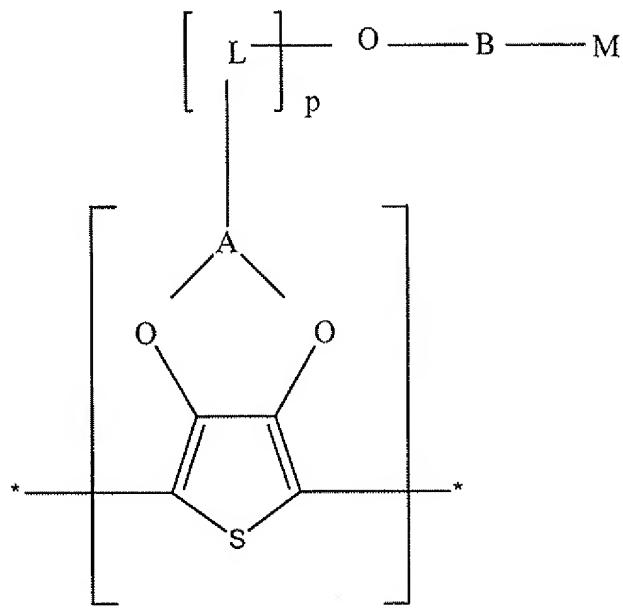


produced according to the process of ~~Claim 38~~ claim 45

with the proviso that said polythiophenes is not



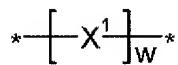
40. (Currently amended) A process for preparing electrical or electronic components, light-emitting components, for antistatic coating, in optoelectronics or in solar energy technology comprising incorporating the polythiophenes polythiophene of Claim 39.
41. (Currently amended) A process for preparing conductive layers comprising incorporating the polythiophenes polythiophene according to Claim 39.
42. (Previously presented) The process according to claim 37, which further comprises heating the layer at a temperature from 80⁰C to 300⁰C.
43. (Previously presented) The process according to claim 41, which further comprises heating the layer at a temperature from 80⁰C to 300⁰C.
44. (New) A polythiophene which comprise recurring units of the formula (IV),



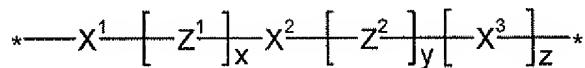
(IV)

wherein

- A is a C₁-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,
- L is a methylene group,
- p is 0 or an integer from 1 to 6,
- M is an n-functional group of the formula (II-a) or (II-b),



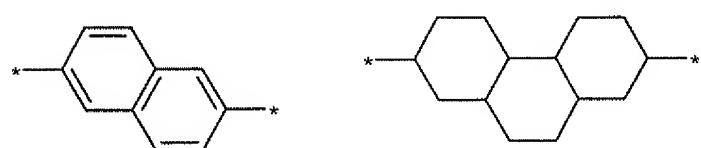
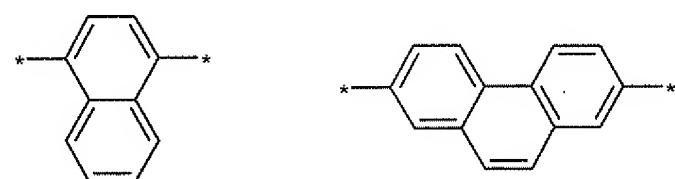
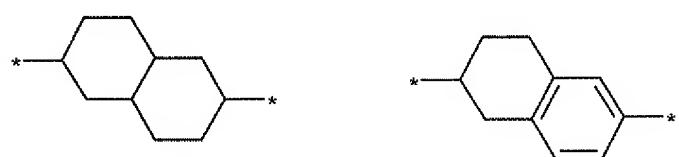
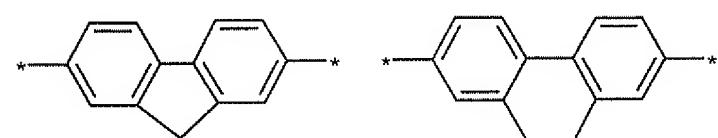
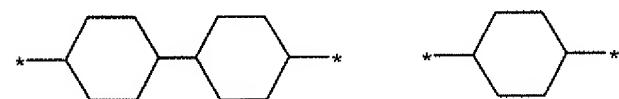
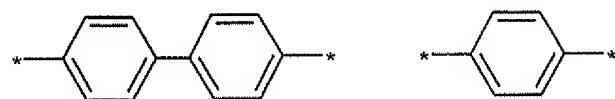
(II-a)

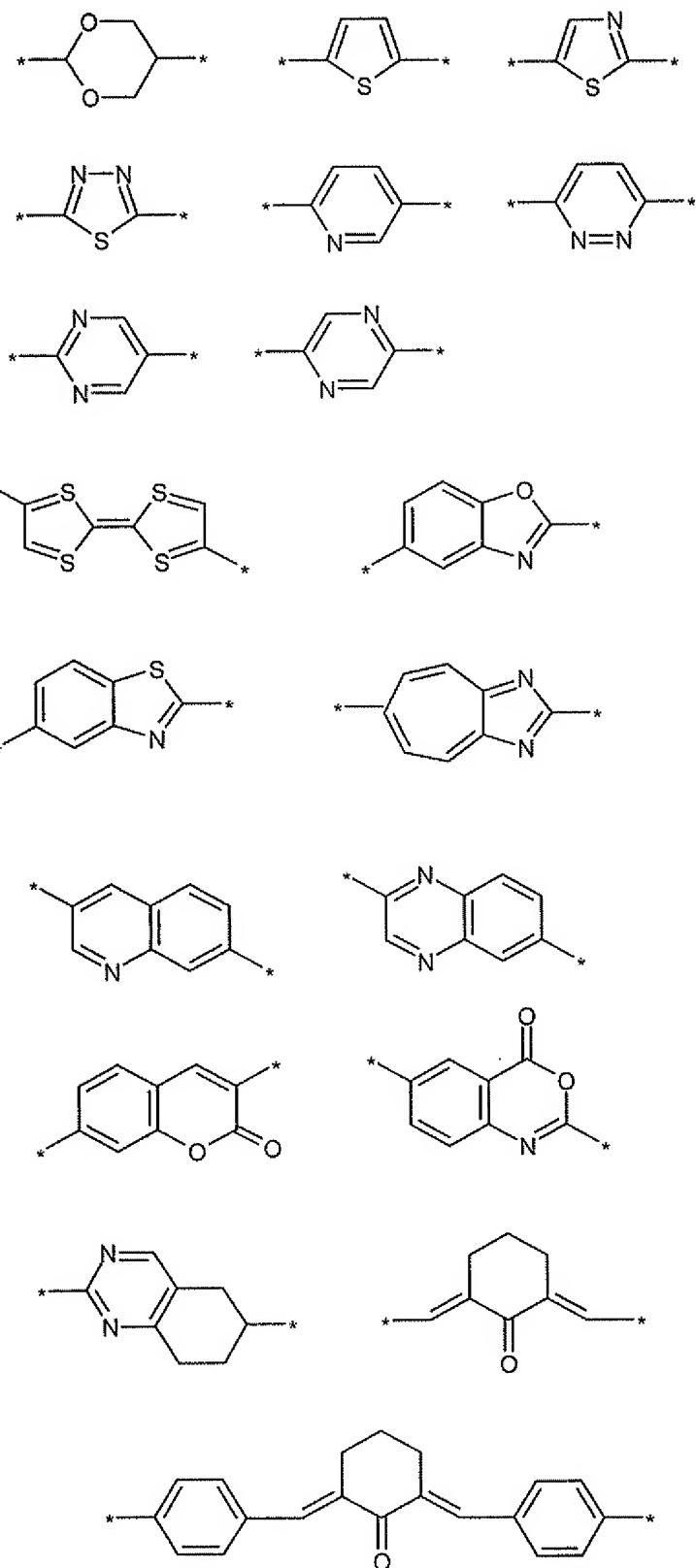


(II-b)

wherein

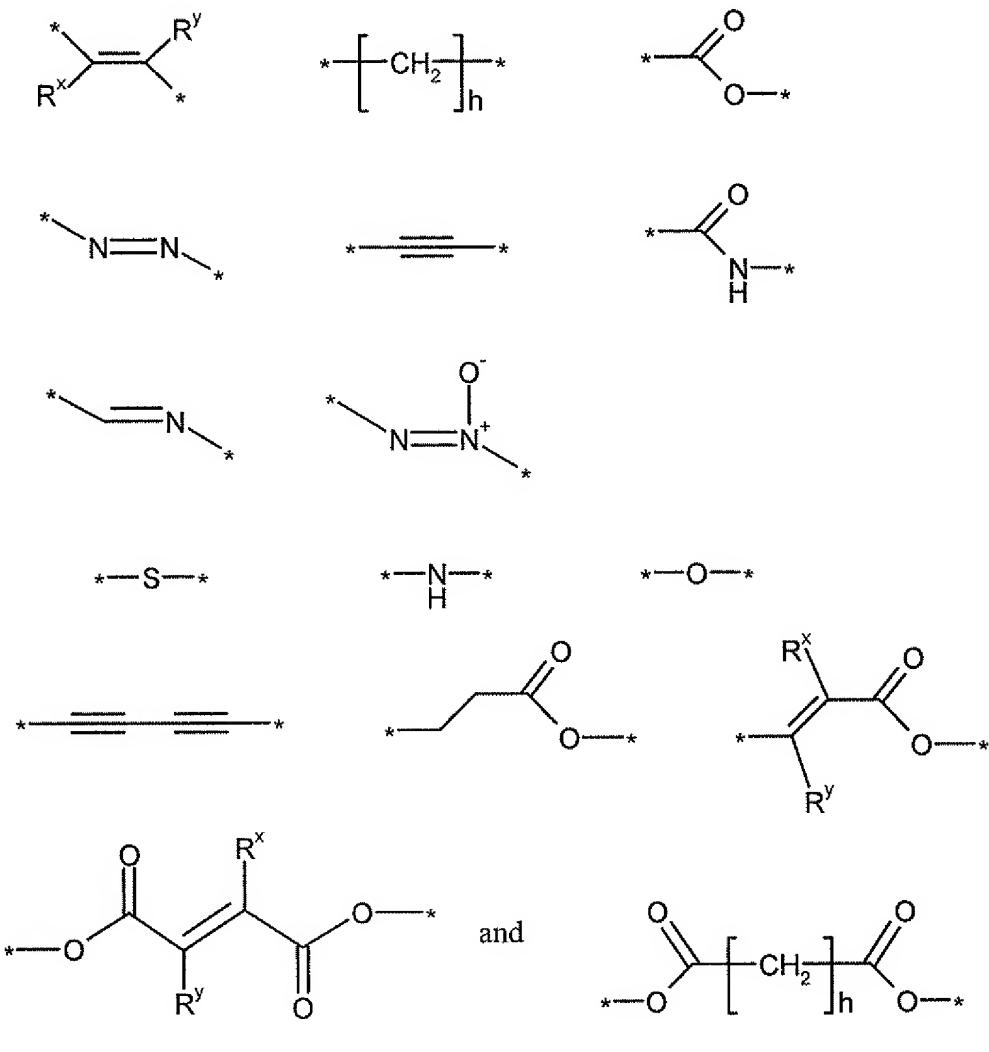
- X¹, X² and X³ are substituted or unsubstituted structures selected independently from the group consisting of





and

Z^1 and Z^2 are structures selected independently from the group consisting of



wherein

R^X and R^Y are each, independently of one another, H, substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, NO₂, a carboxyl group or a hydroxy group,

h is an integer from 1 to 10,

w is an integer from 1 to 5,

x, y and z are each, independently of one another, 0 or 1, and

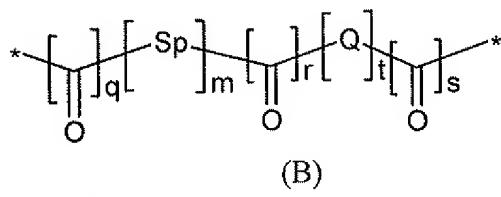
n is 1 or 2, where when n is 1, the group of the formula (II-a) or (II-b) bears a terminal group F at the linkage points denoted by *,

wherein

F is substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO₂) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



wherein

q is 0 or 1,

r and s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

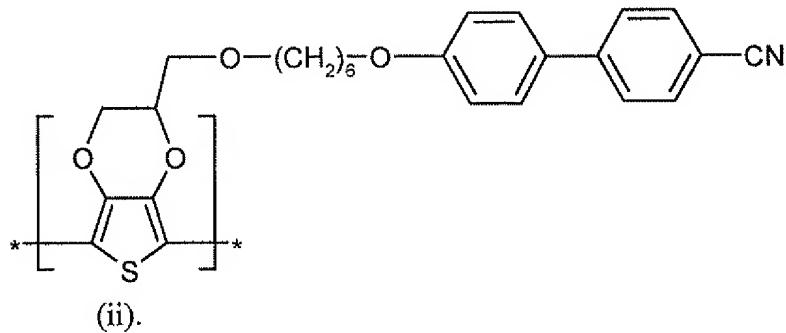
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups,

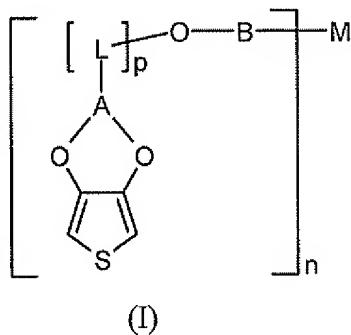
m is 0 or 1,

Q is O, S or NH,

with the proviso that said polythiophenes do not contain recurring units of the formula (ii)

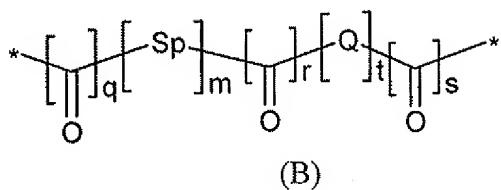


45. (New) Process for preparing polythiophenes, comprising oxidatively polymerizing electrochemically compounds of the formula (I),



where

- A is a C₁-C₅-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,
- L is a methylene group,
- p is 0 or an integer from 1 to 6,
- n is an integer from 1 to 8 and
- B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

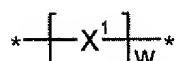
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C₁-C₂₀-alkylene groups, C₅-C₂₀-arylene groups, C₂-C₂₀-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C₆-C₂₀-aralkylene groups, C₂-C₂₀₀-oligoether and -polyether groups,

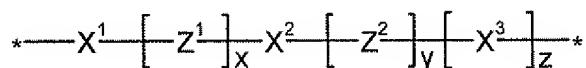
m is 0 or 1,

Q is O, S or NH, and

M is an n-functional group of the formula (II-a) or (II-b),



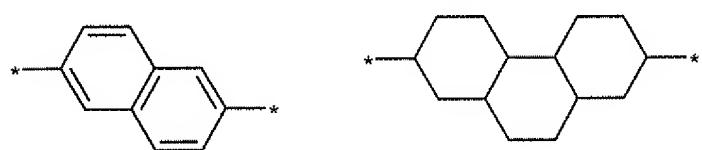
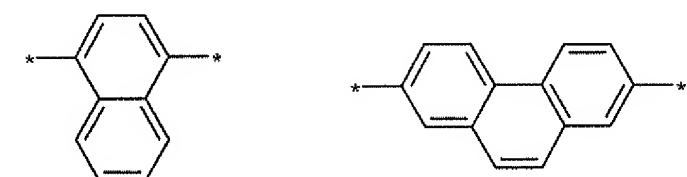
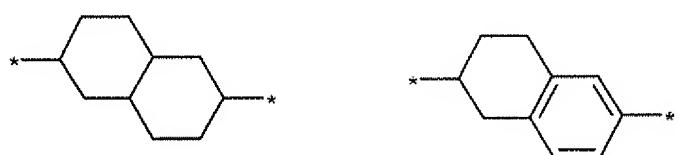
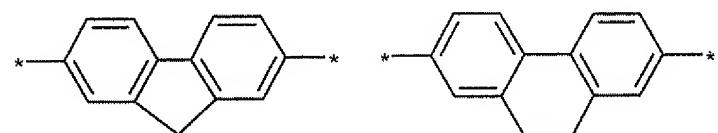
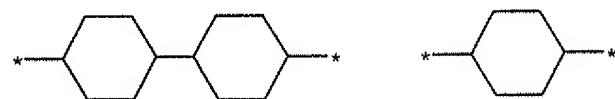
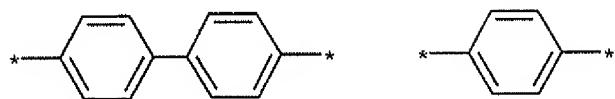
(II-a)

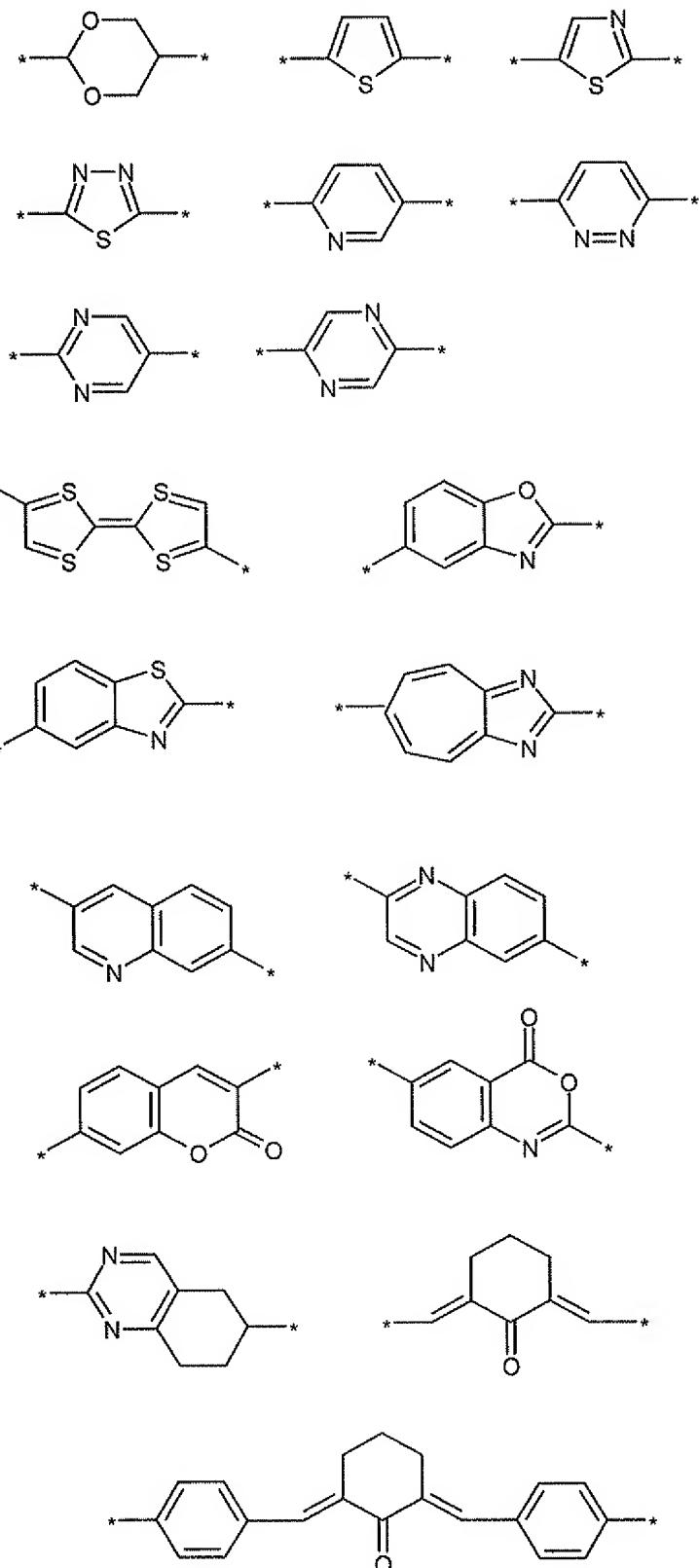


(II-b)

wherein

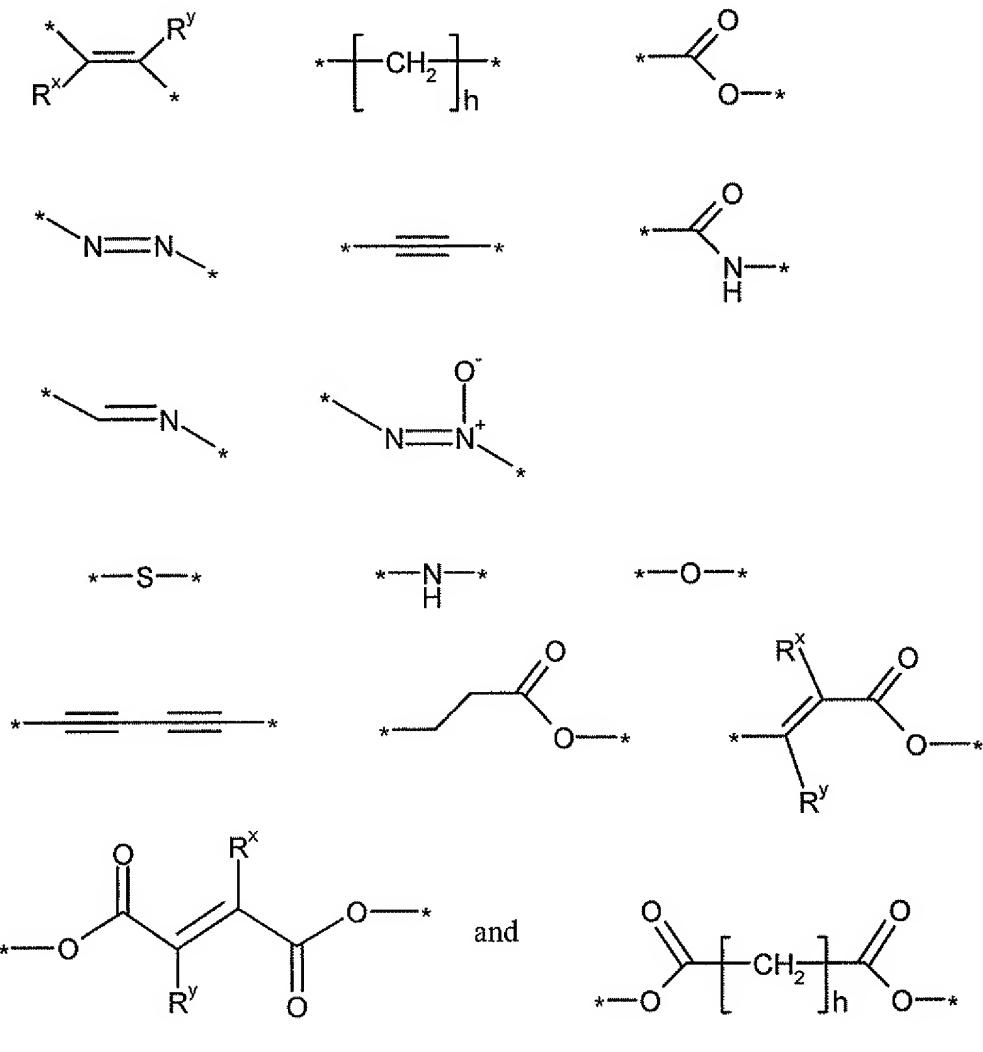
X¹, X² and X³ are substituted or unsubstituted structures selected independently from the group consisting of





and

Z^1 and Z^2 are structures selected independently from the group consisting of



wherein

R^x and R^y are each, independently of one another, H, substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, NO₂, a carboxyl group or a hydroxy group,

h is an integer from 1 to 10,

w is an integer from 1 to 5,

x, y and z are each, independently of one another, 0 or 1, and

n is 1 or 2, where when n is 1, the group of the formula (II-a) or (II-b) bears a terminal group F at the linkage points denoted by *,

wherein

F is substituted or unsubstituted C₁-C₂₂-alkyl, C₁-C₂₂-haloalkyl, C₁-C₂₂-alkenyl, C₁-C₂₂-alkoxy, C₁-C₂₂-thioalkyl, C₁-C₂₂-iminoalkyl, C₁-C₂₂-alkoxycarbonyl, C₁-C₂₂-alkoxycarbonyloxy, a radical of an aliphatic C₁-C₂₂-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO₂) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group

with the proviso that said polythiophenes is not

